

ASBESTOS ASSES. SURVEY

H-K Building #: 13
Project Number: 0980193E
Project: G. HEILEMAN BREWERY "E"
Date Inspected: 03/21/89
Inspector: MARK VOTH

Building Number: 13
Building Name: BOILER HOUSE
SEATTLE, WASHINGTON
Building Type: POWER HSE
Year Constructed: 1933

*****	AREA NUMBER: 01	AREA DESCRIPTION: 1st Floor	AREA AVERAGE % ASBESTOS: %	*****
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LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS
boiler #1-encased in steel	00-999999	%	boiler/tank insulation	OMB	937	sq.ft.				\$26,470	\$21,204	\$47,674
boiler #2-encased in steel	00-999999	%	boiler/tank insulation	OMB	937	sq.ft.				\$26,470	\$21,204	\$47,674
boiler #3-encased in steel	00-999999	%	boiler/tank insulation	OMB	1300	sq.ft.				\$36,725	\$29,419	\$66,144

AREA COMMENTS

AREA # 01 TOTAL \$89,665 \$71,827 \$161,492

The boiler insulation is encased in a metal jacket and could not be accessed for sampling. The material is in good condition with no visible contact or water damage. The material is up to 12' from the floor. At a minimum, it is recommended that the material be maintained and monitored. If removal is planned, gross removal procedures are recommended. This appears to be a high traffic area.

*****	AREA NUMBER: 02	AREA DESCRIPTION: 1st Floor-Catwalk Level	AREA AVERAGE % ASBESTOS: %	*****
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LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS
above boiler #1-fire box-at west wall	00-999999	%	boiler/tank insulation	OMB	739	sq.ft.				\$20,877	\$16,724	\$37,601

AREA COMMENTS

AREA # 02 TOTAL \$20,877 \$16,724 \$37,601

The deaeration tank insulation is encased in a metal jacket and can not be accessed for sampling. The material is in good condition with no visible contact or water damage. The material is approximately 20' to 30' from the floor. At a minimum, it is recommended that the materials be maintained and monitored. If removal is planned, gross removal procedures are recommended. This appears to be a high traffic area.

*****	AREA NUMBER: 03	AREA DESCRIPTION: 1st Floor	AREA AVERAGE % ASBESTOS: 46%	*****
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LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS
NW corner-above boiler feed water pumps	00-356083	30%	pipe covering	OMA	7 ft. 4 in.	O.D. BFW	41	11		\$62	\$39	\$101
NW corner-above boiler feed water pumps	00-356083	30%	pipe covering	OMA	130 ft. 6 in.	O.D. BFW	41	11		\$1,687	\$1,054	\$2,741
NW corner-above boiler feed water pumps	00-356083	30%	pipe covering	OMA	10 ft. 10 in.	O.D. BFW	41	11		\$189	\$140	\$329
along west wall-near catwalk	00-356083	30%	pipe covering	OMA	100 ft. 8 in.	O.D. BFW	41	11		\$1,415	\$1,011	\$2,426
along west wall-near catwalk	00-356083	30%	pipe covering	OMA	20 ft. 10 in.	O.D. BFW	41	11		\$377	\$279	\$656
between boilers #1 & 2-near floor	00-356083	30%	pipe covering	OMA	40 ft. 4 in.	O.D. BFW	41	11		\$357	\$223	\$580
boilers #2 & 3-front-near catwalk	00-356083	30%	pipe covering	OMA	34 ft. 6 in.	O.D. BFW	41	11		\$441	\$276	\$717

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boiler #1-near economizer	00-356083	30%	pipe covering	OMA	15 ft. 4 in. O.D. BFW	41 11	\$134	\$84	\$218
boiler #1-near economizer	00-356083	30%	pipe covering	OMA	45 ft. 6 in. O.D. BFW	41 11	\$584	\$365	\$949
boilers #2 & 3-front-near catwalk	00-356083	30%	pipe covering	OMA	17 ft. 4 in. O.D. BFW	41 11	\$152	\$95	\$247
near NW corner-deaerator-above pumps	00-356087	30%	pipe covering	OMA	5 ft. 10 in. O.D. TW	41 11	\$94	\$70	\$164
NW corner-above boiler feed water pumps	00-356087	30%	pipe covering	OMA	20 ft. 8 in. O.D. TW	41 11	\$283	\$202	\$485
NW corner-above boiler feed water pumps	00-356087	30%	pipe covering	OMA	20 ft. 10 in. O.D. TW	41 11	\$377	\$279	\$656
near NW corner-deaerator-above pumps	00-356087	30%	pipe covering	OMA	105 ft. 8 in. O.D. TW	41 11	\$1,486	\$1,062	\$2,548
NW corner-above boiler feed water pumps	00-356091	70%	pipe covering	OMA	20 ft. 6 in. O.D. HPS/R	41 11	\$260	\$162	\$422
NW corner-above boiler feed water pumps	00-356091	70%	pipe covering	OMA	15 ft. 4 in. O.D. HPS/R	41 11	\$134	\$84	\$218
along west wall-near catwalk	00-356091	70%	pipe covering	OMA	138 ft. 4 in. O.D. HPS/R	41 11	\$1,231	\$770	\$2,001
along west wall-near catwalk	00-356091	70%	pipe covering	OMA	35 ft. 6 in. O.D. HPS/R	41 11	\$454	\$284	\$738
east wall-near sink	00-356091	70%	pipe covering	OMA	30 ft. 6 in. O.D. HPS/R	41 11	\$389	\$243	\$632
between boilers #1 & 2-near floor	00-356091	70%	pipe covering	OMA	36 ft. 4 in. O.D. HPS/R	41 11	\$321	\$201	\$522
SW corner-at fuel oil heat exchanger	00-356091	70%	pipe covering	OMA	55 ft. 4 in. O.D. HPS/R	41 11	\$491	\$307	\$798
along south wall-near catwalk	00-356091	70%	pipe covering	OMA	35 ft. 4 in. O.D. HPS/R	41 11	\$312	\$195	\$507
boilers #2 & 3-front-near catwalk	00-356091	70%	pipe covering	OMA	25 ft. 4 in. O.D. HPS/R	41 11	\$223	\$139	\$362
along north wall-at ceiling	00-356095	20%	wrapped cardboard/paper pipe	OMA	60 ft. 4 in. O.D. DW	41 11	\$535	\$335	\$870
near northwest corner-at ceiling	00-356095	20%	wrapped cardboard/paper pipe	OMA	25 ft. 4 in. O.D. DW	41 11	\$223	\$139	\$362
east wall-near sink	00-356095	20%	wrapped cardboard/paper pipe	OMA	20 ft. 4 in. O.D. DW	41 11	\$178	\$112	\$290
along north wall-at ceiling	00-356099	40%	corrugated pipe covering	OMA	30 ft. 4 in. O.D. LPS/R	41 11	\$268	\$167	\$435
lunch room stairwell-along ceiling	00-356099	40%	corrugated pipe covering	OMA	35 ft. 4 in. O.D. LPS/R	41 11	\$312	\$195	\$507
east wall-near sink	00-356206	70%	pipe covering	OMA	12 ft. 4 in. O.D. CON	41 11	\$107	\$67	\$174
along west wall-near catwalk	01-356084	70%	mjp on pipe covering	OMA	3 10 in. O.D. BFW	41 11	\$188	\$117	\$305
NW corner-above boiler feed water pumps	01-356084	70%	mjp on pipe covering	OMA	2 10 in. O.D. BFW	41 11	\$125	\$78	\$203
NW corner-above boiler feed water pumps	01-356084	70%	mjp on pipe covering	OMA	15 6 in. O.D. BFW	41 11	\$580	\$341	\$921
along west wall-near catwalk	01-356084	70%	mjp on pipe covering	OMA	5 8 in. O.D. BFW	41 11	\$241	\$141	\$382
NW corner-above boiler feed water pumps	01-356084	70%	mjp on pipe covering	OMA	2 4 in. O.D. BFW	41 11	\$56	\$31	\$87
boiler #1-near economizer	01-356084	70%	mjp on pipe covering	OMA	8 6 in. O.D. BFW	41 11	\$309	\$182	\$491
boilers #2 & 3-front-near catwalk	01-356084	70%	mjp on pipe covering	OMA	4 6 in. O.D. BFW	41 11	\$155	\$91	\$246
between boilers #1 & 2-near floor	01-356084	70%	mjp on pipe covering	OMA	8 4 in. O.D. BFW	41 11	\$225	\$125	\$350
boilers #2 & 3-front-near catwalk	01-356084	70%	mjp on pipe covering	OMA	9 4 in. O.D. BFW	41 11	\$253	\$140	\$393
boiler #1-near economizer	01-356084	70%	mjp on pipe covering	OMA	3 4 in. O.D. BFW	41 11	\$84	\$47	\$131
	01-356085	45%				41 11			
	01-356086	45%				41 11			
near NW corner-deaerator-above pumps	02-356088	70%	mjp on pipe covering	OMA	14 8 in. O.D. TW	41 11	\$674	\$396	\$1,070
NW corner-above boiler feed water pumps	02-356088	70%	mjp on pipe covering	OMA	1 8 in. O.D. TW	41 11	\$48	\$28	\$76
NW corner-above boiler feed water pumps	02-356088	70%	mjp on pipe covering	OMA	1 10 in. O.D. TW	41 11	\$63	\$39	\$102
near NW corner-deaerator-above pumps	02-356088	70%	mjp on pipe covering	OMA	2 10 in. O.D. TW	41 11	\$125	\$78	\$203
	02-356089	60%				41 11			
	02-356090	70%				41 11			
along west wall-near catwalk	03-356092	0%	mjp on pipe covering	OMA	1 6 in. O.D. HPS/R	41 11	\$39	\$23	\$62
NW corner-above boiler feed water pumps	03-356092	0%	mjp on pipe covering	OMA	2 4 in. O.D. HPS/R	41 11	\$56	\$31	\$87
along west wall-near catwalk	03-356092	0%	mjp on pipe covering	OMA	45 4 in. O.D. HPS/R	41 11	\$1,264	\$702	\$1,966
between boilers #1 & 2-near floor	03-356092	0%	mjp on pipe covering	OMA	6 4 in. O.D. HPS/R	41 11	\$169	\$94	\$263
SW corner-at fuel oil heat exchanger	03-356092	0%	mjp on pipe covering	OMA	25 4 in. O.D. HPS/R	41 11	\$702	\$390	\$1,092
along south wall-near catwalk	03-356092	0%	mjp on pipe covering	OMA	5 4 in. O.D. HPS/R	41 11	\$140	\$78	\$218
boilers #2 & 3-front-near catwalk	03-356092	0%	mjp on pipe covering	OMA	8 4 in. O.D. HPS/R	41 11	\$225	\$125	\$350
	03-356093	70%				41 11			

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near northwest corner-at ceiling east wall-near sink	03-356094	70%	mjp on wrapped cardboard/paper	OMA	1 4 in. O.D.	DW	41 11	\$28	\$16	\$44
	04-356096	50%					41 11			
	04-356096	50%					41 11			
	04-356097	50%					41 11			
along north wall-at ceiling lunch room stairwell-along ceiling	04-356098	50%	mjp on corrugated pipe cover	OMA	2 4 in. O.D.	LPS/R	41 11	\$56	\$31	\$87
	05-356200	80%					41 11			
	05-356200	80%					41 11			
	05-356201	70%					41 11			
near north side-boiler #1-at ceiling along west wall-near catwalk	05-356202	70%	mjp on non-suspect pipe cover	OMA	9 6 in. O.D.	DW	41 11	\$348	\$204	\$552
	06-356203	10%					41 11			
	06-356203	10%					41 11			
	06-356204	10%					41 11			
east wall-near sink	06-356205	10%	mjp on pipe covering	OMA	7 4 in. O.D.	CON	41 11	\$197	\$109	\$306
	07-356207	70%					41 11			
	07-356208	80%					41 11			
	07-356209	80%					41 11			
along west wall-old hot water tank	08-356213	30%	boiler/tank insulation	OMB	92 sq.ft.		41 11	\$2,599	\$2,082	\$4,681
	08-356214	30%					41 11			
	08-356215	30%					41 11			
	09-356216	60%					41 11			
west wall-upper fuel oil heat exchanger	09-356217	60%	boiler/tank insulation	OMB	30 sq.ft.		41 11	\$848	\$679	\$1,527
	09-356218	60%					41 11			
	10-356219	60%					41 11			
	10-356220	60%					41 11			
west wall-lower fuel oil heat exchanger	10-356221	60%	boiler/tank insulation	OMB	30 sq.ft.		41 11	\$848	\$679	\$1,527
	12-356225	60%					41 11			
	12-356226	40%					41 11			
	12-356227	40%					41 11			
boiler #2-lower drum ends	13-356228	70%	boiler/tank insulation	OMB	100 sq.ft.		41 11	\$2,825	\$2,263	\$5,088
	13-356229	60%					41 11			
	13-356230	50%					41 11			
	14-356231	50%					41 11			
boiler #2-upper drum	14-356232	40%	boiler/tank insulation	OMB	25 sq.ft.		41 11	\$706	\$566	\$1,272
	14-356233	40%					41 11			
	15-356234	40%					41 11			
	15-356235	40%					41 11			
boiler #3-lower drum ends	15-356236	40%	boiler/tank insulation	OMB	100 sq.ft.		41 11	\$2,825	\$2,263	\$5,088
							41 11			

AREA COMMENTS

The materials are in good condition with minor contact and water damage. The materials are approximately 2' to 20' from the floor. At a minimum, it is recommended that the materials be repaired and monitored. If removal is planned, gross removal procedures are recommended. This appears to be a high traffic area.

AREA # 03 TOTAL \$31,112 \$21,499 \$52,611

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***** AREA NUMBER: 04			AREA DESCRIPTION: 1st Floor-Catwalk Level				AREA AVERAGE % ASBESTOS: 55%				*****		
LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS	
above boiler #2 & 3-near catwalk	00-356083	30%	pipe covering	OMA	34 ft.	4 in. O.D. BFW	42	11		\$303	\$190	\$493	
northwest corner-near deaerator tank	00-356087	30%	pipe covering	OMA	24 ft.	6 in. O.D. TW	42	11		\$312	\$195	\$507	
above boilers-along ceiling	00-356091	70%	pipe covering	OMA	120 ft.	4 in. O.D. HPS/R	42	11		\$1,070	\$670	\$1,740	
above boilers-along ceiling	00-356091	70%	pipe covering	OMA	40 ft.	10 in. O.D. HPS/R	42	11		\$755	\$559	\$1,314	
above boilers-along ceiling	00-356091	70%	pipe covering	OMA	60 ft.	14 in. O.D. HPS/R	42	11		\$1,510	\$1,194	\$2,704	
above boilers-along ceiling	00-356091	70%	pipe covering	OMA	70 ft.	6 in. O.D. HPS/R	42	11		\$909	\$568	\$1,477	
northwest corner-near deaerator tank	00-356091	70%	pipe covering	OMA	47 ft.	6 in. O.D. HPS/R	42	11		\$610	\$381	\$991	
above boiler #2-near ceiling	00-356091	70%	pipe covering	OMA	65 ft.	6 in. O.D. HPS/R	42	11		\$844	\$527	\$1,371	
along east wall-near ceiling	00-356091	70%	pipe covering	OMA	25 ft.	6 in. O.D. HPS/R	42	11		\$324	\$203	\$527	
northwest corner-near deaerator tank	00-356091	70%	pipe covering	OMA	19 ft.	4 in. O.D. HPS/R	42	11		\$169	\$106	\$275	
above boilers-along ceiling	00-356091	70%	pipe covering	OMA	95 ft.	12 in. O.D. HPS/R	42	11		\$2,092	\$1,608	\$3,700	
along east wall-near ceiling	00-356091	70%	pipe covering	OMA	12 ft.	4 in. O.D. HPS/R	42	11		\$107	\$67	\$174	
above boiler #2-near ceiling	00-356095	20%	wrapped cardboard/paper pipe	OMA	45 ft.	4 in. O.D. DW	42	11		\$401	\$251	\$652	
above boilers #2 & 3-near catwalk	01-356084	70%	mjp on pipe covering	OMA	4	4 in. O.D. BFW	42	11		\$112	\$62	\$174	
	01-356085	45%					42	11					
	01-356086	45%					42	11					
northwest corner-near deaerator tank	02-356088	70%	mjp on pipe covering	OMA	5	6 in. O.D. TW	42	11		\$193	\$114	\$307	
	02-356089	60%					42	11					
	02-356090	70%					42	11					
above boilers-along ceiling	03-356092	0%	mjp on pipe covering	OMA	13	12 in. O.D. HPS/R	42	11		\$986	\$616	\$1,602	
northwest corner-near deaerator tank	03-356092	0%	mjp on pipe covering	OMA	6	6 in. O.D. HPS/R	42	11		\$232	\$136	\$368	
above boilers-along ceiling	03-356092	0%	mjp on pipe covering	OMA	30	4 in. O.D. HPS/R	42	11		\$843	\$468	\$1,311	
above boilers-along ceiling	03-356092	0%	mjp on pipe covering	OMA	6	6 in. O.D. HPS/R	42	11		\$232	\$136	\$368	
northwest corner-near deaerator tank	03-356092	0%	mjp on pipe covering	OMA	3	4 in. O.D. HPS/R	42	11		\$84	\$47	\$131	
above boiler #2-near ceiling	03-356092	0%	mjp on pipe covering	OMA	7	6 in. O.D. HPS/R	42	11		\$271	\$159	\$430	
above boilers-along ceiling	03-356092	0%	mjp on pipe covering	OMA	3	14 in. O.D. HPS/R	42	11		\$260	\$167	\$427	
along east wall-near ceiling	03-356092	0%	mjp on pipe covering	OMA	4	6 in. O.D. HPS/R	42	11		\$155	\$91	\$246	
along east wall-near ceiling	03-356092	0%	mjp on pipe covering	OMA	6	4 in. O.D. HPS/R	42	11		\$169	\$94	\$263	
above boilers-along ceiling	03-356092	0%	mjp on pipe covering	OMA	2	10 in. O.D. HPS/R	42	11		\$125	\$78	\$203	
	03-356093	70%					42	11					
	03-356094	70%					42	11					
above boiler #2-near ceiling	04-356096	50%	mjp on wrapped cardboard/paper	OMA	5	4 in. O.D. DW	42	11		\$140	\$78	\$218	
	04-356097	50%					42	11					
	04-356098	50%					42	11					
above boiler #1-near deaerator tank	11-356222	0%	boiler/tank insulation	OMB	45	sq.ft.							
	11-356223	0%											
	11-356224	0%											

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AREA COMMENTS

The materials are in good to fair condition with minor contact and water damage. The materials are approximately 20' to 30' from the floor. At a minimum, it is recommended that the materials be repaired and monitored. If removal is planned, gross removal procedures are recommended. This appears to be a high traffic area.

AREA # 04 TOTAL \$13,208 \$8,765 \$21,973

***** AREA NUMBER: 05 AREA DESCRIPTION: 2nd Floor AREA AVERAGE % ASBESTOS: 67% *****

LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS
lunch room-northwest corner-along floor	00-356237	60%	pipe covering	OMA	10 ft.	4 in. O.D.	LPS/R	59	11	\$89	\$56	\$145
lunch room-northwest corner-along floor	16-356238	70%	mjp on pipe covering	OMA	4	4 in. O.D.	LPS/R	59	11	\$112	\$62	\$174
	16-356239	70%						59	11			
	16-356240	80%						59	11			

AREA COMMENTS

The materials are in fair condition with contact and water damage. The materials are up to 3' from the floor. At a minimum, it is recommended that the materials be repaired and monitored. If removal is planned, glove bag removal procedures are recommended. This appears to be a moderate traffic area.

AREA # 05 TOTAL \$201 \$118 \$319

***** AREA NUMBER: 06 AREA DESCRIPTION: 2nd Floor AREA AVERAGE % ASBESTOS: 0% *****

LOCATION OF THE MATERIAL	SAMPLE NUMBER	ASB	MATERIAL DESCRIPTION	O&M CODE	QUANTITY	UNITS OF MEASURE	PIPE ID	EXP POT	PL	REMOVAL COSTS	REPLACEMENT COSTS	TOTAL COSTS
lunch room-ceiling	17-356241	0%	acoustical tile	OMG	750	sq.ft.						
	17-356242	0%										
	17-356243	0%										

AREA COMMENTS

AREA # 06 TOTAL \$0 \$0 \$0

BUILDING # 13 TOTAL \$155,063 \$118,933 \$273,996